

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 8. (Canceled).

9. (Currently Amended) ~~The A radio communications apparatus according to claim 4, for simultaneously transmitting a local oscillation signal used when an intermediate frequency band signal is converted to a radio frequency band signal by a mixer unit, and the radio frequency band signal, comprising:~~

~~a control unit configured to change a modulation scheme in accordance with the quality of communication and controlling an output power of the local oscillation signal,~~

~~wherein said mixer unit can control an output power of the local oscillation signal under the control of said control unit,~~

wherein said mixer unit has:

a first power splitter for equally splitting the local oscillation signal with phase difference α_2 ;

a second power splitter for equally splitting the intermediate frequency band signal with phase difference β_2 ;

a first and a second mixer each for mixing the local oscillation signal delivered from said first power splitter with the intermediate frequency band signal delivered from said second power splitter; and

a power combiner for combining a radio frequency band signal generated from said first mixer and a radio frequency band signal generated from said second mixer with equal power and phase difference γ_2 ,

wherein a DC bias to said mixer is controlled by said control unit under a relationship of:

$$\alpha_2 + \beta_2 + \gamma_2 = 2n\pi \text{ and } \alpha_2 - \beta_2 + \gamma_2 = (2n + 1)\pi \text{ (n is an integer).}$$

10. - 19. (Canceled).

20. (Currently Amended) ~~The A mixer unit according to claim 15 in a radio communications apparatus for simultaneously transmitting a radio frequency band signal and a local oscillation signal used when an intermediate frequency band signal is converted to the radio frequency band signal, said mixing unit comprising:~~

an output power of the local oscillation signal can be controlled by a control signal in accordance with a quality of communication;

a first power splitter for equally splitting the local oscillation signal with phase difference α_2 ;

a second power splitter for equally splitting the intermediate frequency band signal with phase difference β_2 ;

a first and a second mixer each for mixing the local oscillation signal delivered from said first power splitter with the intermediate frequency band signal delivered from said second power splitter; and

a power combiner for combining a radio frequency band signal generated from said first mixer and a radio frequency band signal generated from said second mixer with equal power and phase difference γ_2 ,

wherein a DC bias to said mixer is controlled by the control signal under a relationship of:

$$\alpha_2 + \beta_2 + \gamma_2 = 2n\pi \text{ and } \alpha_2 - \beta_2 + \gamma_2 = (2n+1)\pi \text{ (n is an integer).}$$

21. (Canceled).

22. (Canceled).